Remarks

Claims 19-42, 44 and 45 were pending. Claims 19-27, 39, 40, 44 and 45 are withdrawn from consideration. By this Amendment, Applicants have canceled claims 19-27, 29, 35, 38-40, 44 and 45, amended claims 28, 31 and 34, and added new claims 54-60.

Support for the amendment of claims 25 and 34 can be found in the specification *inter alia* at page 13, lines 4-5, page 53, lines 20-24, page 54, lines 13-19, page 55, lines 1-3 and 8-10, and page 57 line 35 to page 58, line 3.

Support for the amendment of claim 28 can be found in the specification *inter alia* at page 16, lines 5-7.

Support for new claim 54 can be found in the specification *inter alia* at page 19, line 25.

Support for new claim 55 can be found in the specification *inter alia* at page 19, line 15.

Support for new claim 56 can be found in the specification *inter alia* at page 19, lines 17-18.

Support for new claim 57 can be found in the specification *inter alia* at page 19, line 20.

Support for new claim 58 can be found in the specification *inter alia* at page 19, lines 22-23.

Support for new claim 59 can be found in the specification *inter alia* at page 17, lines 25-26.

Support for new claim 60 can be found in the specification *inter alia* at page 17, lines 31-32.

Priority

In the March 3, 2006 Office Action, the Examiner acknowledged Applicants' claim for the benefit of its prior-filed application, namely U.S. Serial No. 09/885,227, filed June 20, 2001, of which the subject application is a divisional, as well as U.S. Provisional Application Nos. 60/287,171, 60/269,788 and 60/212,577, filed April 27, 2001, February 16, 2001 and June 20, 2000, respectively.

Claim Objections

In the March 3, 2006 Office Action, the Examiner objected to claim 38 as encompassing non-elected subject matter. The Examiner also indicated that, should claim 34 be found allowable, claim 35 will be objected to under 37 C.F.R. §1.75 as being a substantial duplicate thereof.

In response, Applicants have cancelled claims 35 and 38.

35 U.S.C. §112, first paragraph - Claims 28-38, 41 and 42

In the March 3, 2006 Office Action, the Examiner rejected claims 28-38, 41 and 42 under 35 U.S.C. §112, first paragraph, asserting that the specification, while being enabling for stimulating remyelination in an experimental mouse model of multiple sclerosis induced by Theiler's murine encephalomyelitis virus (TMEV) by administering anti-glatiramer acetate IgG, does not reasonably provide enablement for treating a subject suffering from all diseases associated with demyelination of central nervous system by administering an antibody that binds all types of epitopes on glatiramer

acetate as broadly claimed. The Examiner alleged the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Diseases Associated with Demyelination

In particular, the Examiner alleged that Applicants fail to provide enough guidance as to how to use the findings from the TMEV mouse model in treating all diseases associated with demyelination.

In response, to advance prosecution of this application but without conceding the correctness of the Examiner's position, Applicants have amended claim 28 to recite "multiple sclerosis".

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

Multiple Sclerosis

The Examiner also alleged that, in the example of autoimmune demyelinating diseases, the pathology of multiple sclerosis (MS) is very heterogeneous, and the Examiner cited 't Hart et al., Curr. Opin. Neurol. (2003) 16:375-383 for at least four different patterns of pathology of MS. According to the Examiner, 't Hart et al. also showed that the animal models for MS can not truly reflect the pathogenic mechanisms of MS; each animal model has the partial clinical aspects and histopathology of MS, indicating that the effects shown in one MS mouse model does not truly reflect the end results in patients with different forms of MS. The Examiner alleged this scenario also applies to the instant MS mouse model induced by

TMEV; although it has been shown that injection of MBP into mice can induce experimental allergic encephalomyelitis (EAE), which subsequently initiates a cascade of immune-mediate damages, the cause of MS is still not established. Since the prior art has not deciphered the cause of all forms of MS, it is very difficult to predict whether passive immunizing with anti-glatiramer acetate antibody can achieve the goal of treating the disease. The Examiner alleged that without knowing its full scope of etiology and molecular mechanisms in MS, whether the administration of anti-glatiramer acetate antibody can treat MS is unpredictable, indicating that undue experimentation is required for one of ordinary skill in the art to use the invention.

In response, Applicants maintain that the subject application clearly satisfies the requirements of 35 U.S.C. §112, first paragraph, for the claimed invention. To maintain otherwise contradicts the explicit guidance of the Patent Office's own rules, as well as the Court of Appeals for the Federal Circuit.

M.P.E.P. §2164.02 explicitly states, citing Federal Circuit precedent, that a "rigorous or an invariable exact correlation is not required." (emphasis added) Indeed, only a "reasonable correlation" is required between the model and the claimed invention. The TMEV model provided by applicants is "one of the best, if not the best, experimental animal models of multiple sclerosis (MS)." Oleszak et al., Theiler's Virus Infection: a Model for Multiple Sclerosis, Clinical Microbiology Reviews (2004) 17(1):174-207, 178, attached hereto as **Exhibit A**.

Oleszak et al. describe the various similarities between MS in humans and TMEV-induced demyelinating disease in mice, and include a comparison of neuropathology in Table 2. Thus, the TMEV model provides "reasonable correlation" to the claimed invention.

Finally, should the Examiner still question whether the TMEV model provides "reasonable correlation", Applicants point out that better correlation to the claimed method would only be provided by clinical testing in humans which requires FDA approval. Clinical testing, however, would not be any sort of "correlation" but an actual example. Moreover, it is well settled that "FDA approval ... is not a prerequisite for finding a compound useful within the meaning of the patent laws." *In re Brana*, 51 F.3d 1560, 1566 (Fed. Cir. 1995)

Accordingly, rejecting the current claims on enablement grounds is improper.

Glatiramer Acetate

The Examiner also alleged that Applicants fail to disclose and are not in possession of anti-glatiramer acetate antibodies that can recognize all epitopes on glatiramer acetate. The Examiner alleged that glatiramer acetate is a random copolymer of the amino acids, and alleged that the instant specification has not disclosed sufficient information as the anti-glatiramer acetate antibody possessed by Applicant can bind to all epitopes on glatiramer acetate. Moreover, the Examiner alleged that Applicants have not provided any guidance as to use nonhuman antibodies to treat the diseases. It has been known in the art that human develop anti-mouse antibodies in

immunotherapeutic approaches, which subsequently results in adverse effects. The Examiner alleged Applicants have not taught how to use nonhuman antibodies in treating demyelinating disease, indicating that undue experiment is required for a skilled artisan to practice the invention.

In response, to advance prosecution of this application but without conceding the correctness of the Examiner's position, Applicants have amended independent claim 28 to recite a method comprising administering humanized antibody directed against an epitope on glatiramer acetate.

On page 22, line 20 to page 24, line 16 of the specification, Applicants disclose processes for humanizing nonhuman antibodies, which processes are readily known in the art. These processes, in combination with the previously-discussed correlation between TMEV and MS, indicate that undue experiment is not required for a skilled artisan to practice the invention.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

35 U.S.C. §112, second paragraph - Claim 31

In the March 3, 2006 Office Action, the Examiner rejected claim 31 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner alleged the language "consists essentially of" is usually used for a composition and denotes that the composition contains no additional ingredients that materially affect the properties of the composition, and it is unclear how a specific antibody

molecule can comprise additional ingredients which do not change its properties.

In response, to advance prosecution of this application but without conceding the correctness of the Examiner's position, Applicants have amended claim 31 to recite "consists of".

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

35 U.S.C. §112, second paragraph - Claims 34 and 35

In the March 3, 2006 Office Action, the Examiner rejected claims 34 and 35 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner alleged Applicants have not sufficiently described a macrophage and microglial phenotype so that a skilled artisan knows what is encompassed, which renders the claims indefinite.

The Examiner also alleged the term "primarily" in claims 34 and 35 is a relative term which renders the claim indefinite.

In response, to advance prosecution of this application but without conceding the correctness of the Examiner's position, Applicants have canceled claim 35 and deleted the term "primarily" from claim 34.

Accordingly, the rejection is moot.

Applicants maintain for the record that a macrophage and microglial phenotype is sufficiently described in the

specification. Page 20, line 33 to page 21, line 1 describes phenotype of a phage. Page 32, lines 28-29 recites specific phenotypes "isolectin B_4, CD11b (complement receptor 3)(activated microglia and macrophage markers)". Page 52, lines 10-14 describes phenotype of activated microglia (60) as they were round, located only on the top surface of the culture, sometimes in clusters and always positive with the microglia/macrophage marker, Bandeiraea simplicifolia isolectin B_4.

35 U.S.C. §103(a) - Claims 28, 30-38, 41 and 42

In the March 3, 2006 Office Action, the Examiner rejected claims 28, 30-38, 41 and 42 under 35. U.S.C. §103 as allegedly unpatentable over either of Rodriguez et al. (U.S. Patent No. 5,591,629) or Warrington et al. (Proc. Natl. Acad. Sci. USA, June 6, 2000, 97:6820-6825) in view of Arnon et al. (U.S. Patent No. 6,214,791) and Teitelbaum et al. (Proc. Natl. Acad. Sci. USA, 1991, 88:9528-9532). Applicants note that claim 29, reciting that the antibody is "humanized" is not included under this rejection.

In response, Applicants have amended the claims such that all currently pending claims include the subject matter of claim 29. Claim 29 is not subject to this rejection.

Accordingly, as amended, claims 28, 30-38, 41 and 42 are not subject to this rejection.